2018 ESSA Indicators and Correction Systems

Public School Accountability
School Performance Unit

July 19-20, 2018

ESSA Index Indicators

What is the ESSA School Index?
The Every Student Succeeds Act (2015) provided states the opportunity to engage stakeholders in the development of the states' accountability systems. ESSA required states to include at least five indicators for success:
1. Achievement,
2. Growth,
3. English learner progress toward English language proficiency,
4. Graduation rate, and
5. School Quality and Student Success (SQSS)

Stakeholder Designed Accountability System

	Component	Weight of Indicator within Index Grades K – 5 & 6 - 8		Weight of Indicator within Index High Schools
1	Weighted Achievement Indicator	35%	Weighted Achievement and Academic Growth	70% total with Weighted Achievement accounting for half (35%) and School Growth Score accounting for half (35%)
2	Growth Indicator Academic Growth English Language Progress	50%		
3	Progress to English Language Proficiency*	Weight of indicator in School Value-Added Growth Score is proportionate to number of English Learners	Progress to English Language Proficiency*	Weight of indicator in School Value-Added Growth Score is proportionate to number of English Learners
4	Graduation Rate Indicator 4-Year Adjusted Cohort Rate 5-Year Adjusted Cohort Rate	NA		15% total 4-Yr = 10% 5-Yr = 5%
5	School Quality and Student Success Indicator	15%		15%

Understanding Weighted Achievement

Indicator 1

Accountability and Percent Tested

- ACT Aspire April 6, 2018 data pull for test scores.

- ESSA law states that a student must be enrolled at the same school for at least half a school year to include their test scores.

- May 7, 2018 data pull for percent tested.

- Mobile students will be included in percent tested.

- New pull dates will be posted in 2019 business rules and Commissioner's Memo.

- ESSA law states that the denominator for calculating achievement will be the greater of the number tested in the student subgroup or 95 percent of the students in the subgroup.

Recently Arrived English Learners

In 2018, recently arrived English Learners (first year in the U.S.) are required to test. The scores will not be used to calculate achievement. The scores will be used to calculate growth when the students test in the second year. Test scores for the students will be used for achievement calculations in the third year.

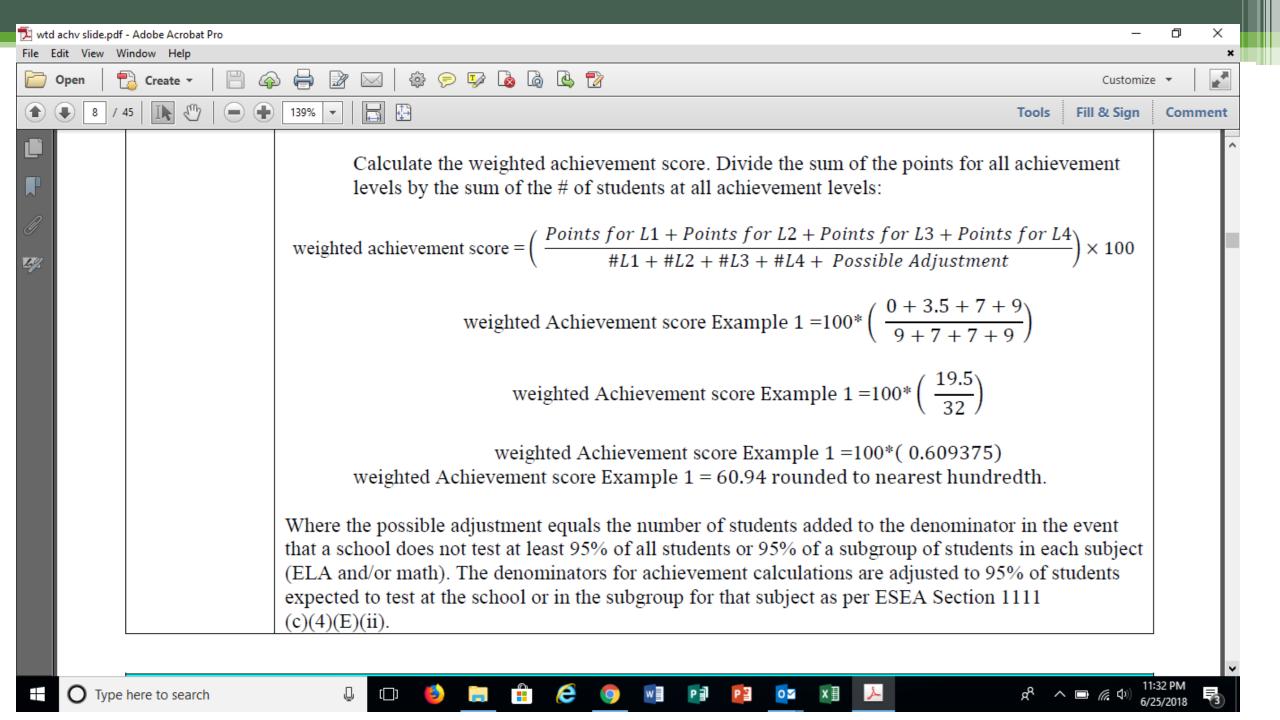| Achievement Level ACT Aspire	Achievement Level MSAA	Points Earned for Each Achievement Level
In Need of Support	Level 1 (L1)	0.00
Close	Level 2 (L2)	0.50
Ready	Level 3 (L3)	1.00
Exceeds: Step one: Number of L4 ≤ Number of L1	Level 4 (L4)	1.00
Exceeds: Step two: Number of L4 > Number of L1	Level 4 (L4)	1.25

Determining Weighted Achievement: Example 1

	#L1 students	#L2 students	#L3 students	#L4 students
ELA	2	3	4	7
Math	7	4	3	2
SUM at each level	9	7	7	9*
Points at each level	9*0.00 =0.00	7*0.50 = 3.50	7*1.00= 7.00	9*1.00 = 9.00

*Sum at L1 = 9 = Sum at L4. Subtract #L1s from #L4s. 9 – 9 =0.

Therefore, #L4 multiplied by 1.00 point. 9*1.00 = 9 points for L4.

Determining Weighted Achievement: Example 2

	#L1 students	#L2 students	#L3 students	#L4 students
ELA	2	3	4	7
Math	3	2	5	6
SUM at each Level	5	5	9	13*
Multiply # at each level to get Points at each level	5*0.00 = 0.00	5*0.50 = 2.50	9*1.00 = 9.00	(5*1.00) + (8*1.25) = (5 + 10) = 15

Sum at L1 = 5 < Sum at L4 = 13. Subtract #L1 from #L4. The difference is multiplied by 1.25. Since there are 5 L1s then 5L4s must be multiplied by 1.00 and the remaining L4s are multiplied by 1.25. (5L4s*1.00) + (8L4s*1.25) points = 15 points for L4.

Calculate the weighted achievement score. Divide the sum of the points for all achievement levels by the sum of the # of students at all achievement levels:

$$\text{weighted achievement score} = \left(\frac{Points\ for\ L1 + Points\ for\ L2 + Points\ for\ L3 + Points\ for\ L4}{\#L1 + \#L2 + \#L3 + \#L4 +\ Possible\ Adjustment} \right) \times 100$$

$$\text{weighted Achievement score Example 1} = 100* \left(\frac{0 + 3.5 + 7 + 9}{9 + 7 + 7 + 9} \right)$$

$$\text{weighted Achievement score Example 1} = 100* \left(\frac{19.5}{32} \right)$$

weighted Achievement score Example 1 = 100*(0.609375)

weighted Achievement score Example 1 = 60.94 rounded to nearest hundredth.

Where the possible adjustment equals the number of students added to the denominator in the event that a school does not test at least 95% of all students or 95% of a subgroup of students in each subject (ELA and/or math). The denominators for achievement calculations are adjusted to 95% of students expected to test at the school or in the subgroup for that subject as per ESEA Section 1111 (c)(4)(E)(ii).

Corrections Process

Corrections and Appeals

➤ Data teams and school leaders can enter reason not tested codes and documentation from July 31 through August 13, 2018.

➤ All corrections must be accompanied by clarifying evidence supporting requested changes.
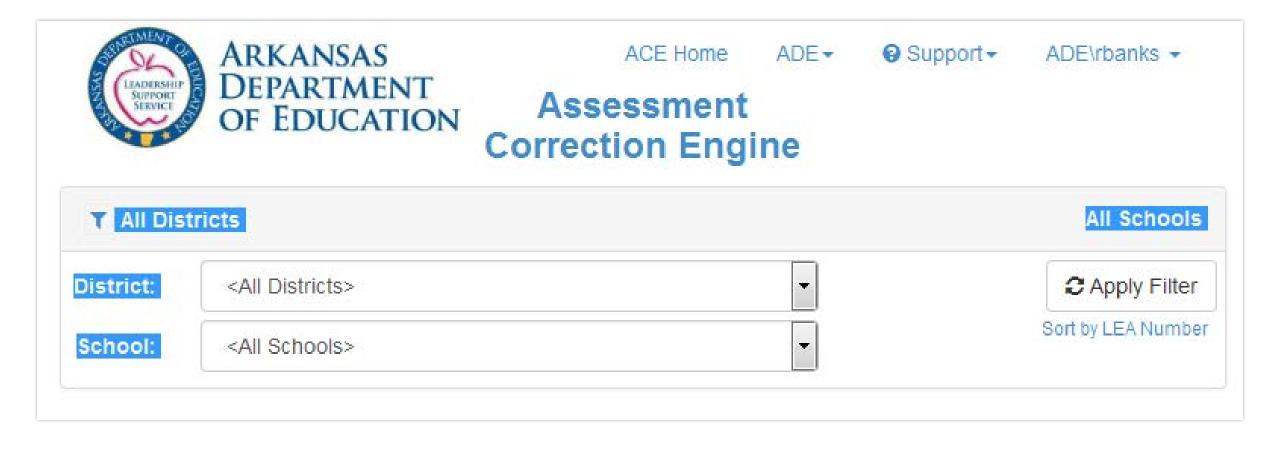
➤ Late submissions are not accepted.

Where to Make Corrections

The Assessment Correction Engine (ACE) interface will be available to all districts from July 31 through August 13 at the following link: https://adedata2.arkansas.gov/ace. Users will be directed to the ADE Data Center to log in. District or School Level users should use their TRIAND login credentials to log in.
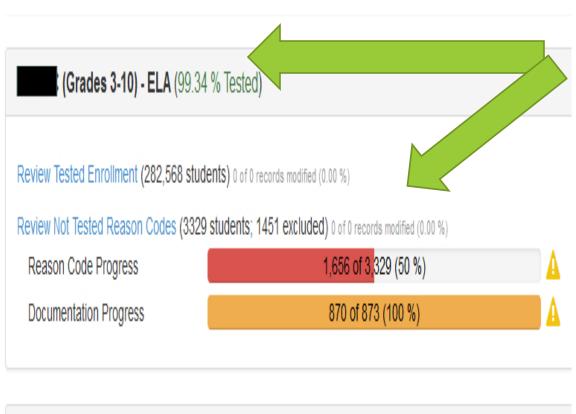

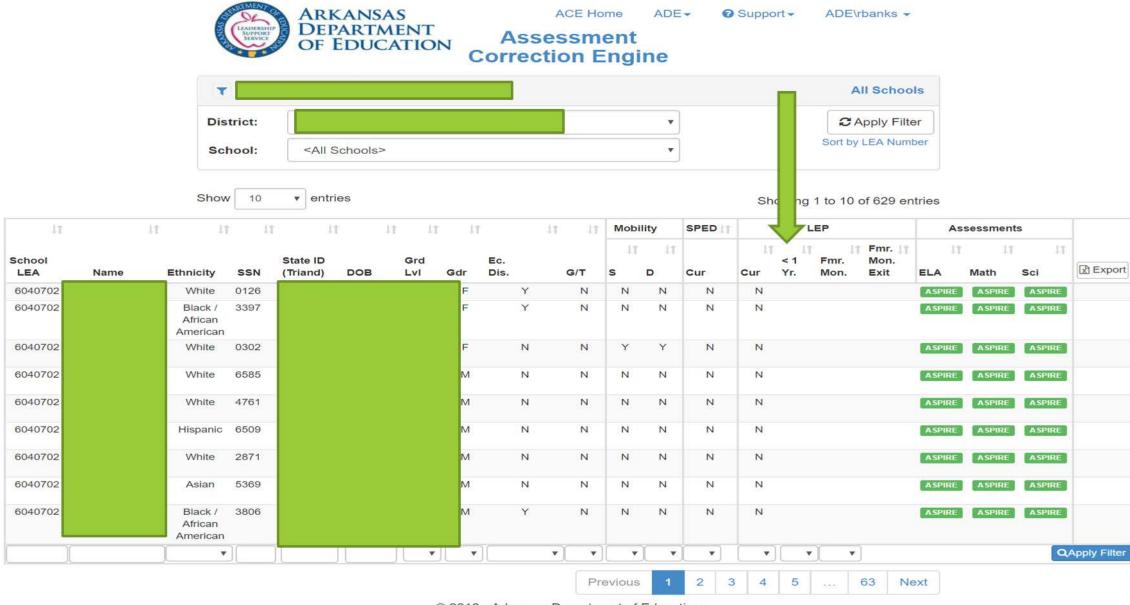https://adedatabeta.arkansas.gov/

Assessment Correction Engine (ACE)

Reason Not Tested

□95% Tested

□Review Not Tested Reason Codes

Identification of Students that are 1ˢᵗ Year in the United States

What Are Some Exemptions From Requirement To Test?

Reasons not tested may be used to exclude students from enrollment expected to test: Medical Emergency/Extended Hospitalization; Resident code 'X' for students in a residential facility; Resident code '1', '2', and '4' are used for home-schooled or private school students; Incarcerated/Juvenile Detention, Deceased; Withdrew from school.

The Commissioner's Memo at the following link has information about using the Assessment Correction Engine (ACE) and an attachment listing the reason not tested codes.

http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=3640

Value Added Growth

Indicators 2 & 3

ESSA Growth Indicator

- ## A Simple Value-Added Growth Model
  - Student Value-Added Score (VAS): *How much did a student grow this year compared to how much we thought he/she would grow based on what we know about his/her achievement in prior years (the student's score history)?*
  - Score history = A student's achievement scores over time (up to four prior years)
  - Subtract a student's predicted score from their actual score to get their Value-Added Score.
  - Controls for student-level factors that schools and teachers don't have control over such as students' poverty status, minority status, English learner status and special education status.

Student's Scores are Placed on a Standard Scale

- To calculate growth across different tests use a standard score (z score)

Calculating the Standard Score (Z-Score)

Standard Score, $z = \dfrac{X - \mu}{\sigma}$

TERMS:
μ = mean (pronounced 'mu')
X = score
σ = standard deviation (pronounced 'sigma')

$$z\ Score = \frac{412 - 422.19}{6.31} = -1.61$$

$$z\ Score = \frac{423 - 422.19}{6.31} = 0.13$$

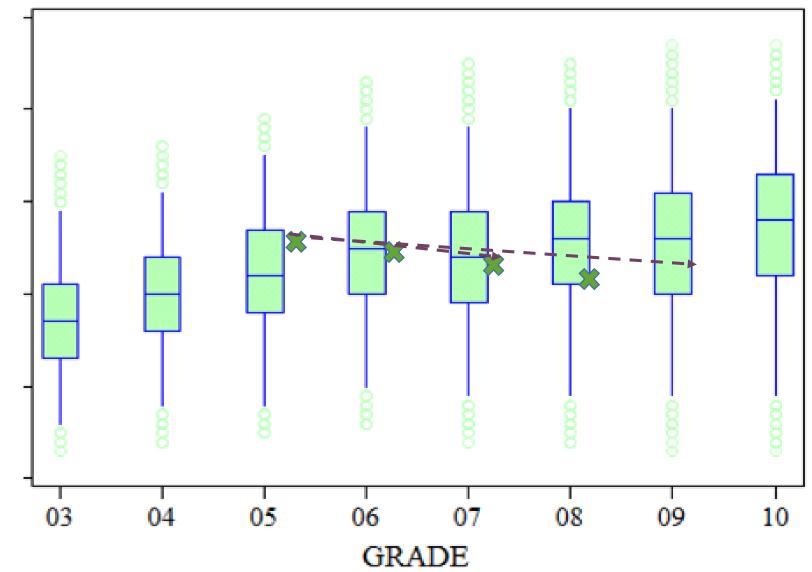$$z\ Score = \frac{430 - 422.19}{6.31} = 1.24$$

Construct a score history using students' z scores

If a student is declining, will he/she be expected to keep declining? Won't the expected growth keep going down?
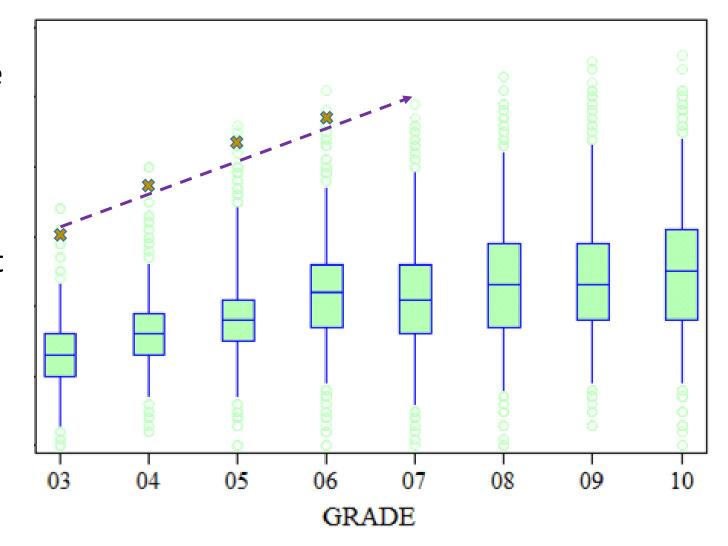
- Not necessarily, even though the student's score history helps set the expectation for growth…

- The achievement of other students at the same grade level in the current year helps adjust the expectation when the student is further away from the mean.

If a student is consistently really high achieving, can he/she meet or exceed expected growth?

- Yes, the score history will help set the expectation to continue to achieve at high levels…

- *AND*, the achievement of other students at the same grade level in the current year help adjust the expectation when the student is further away from the mean.

Transformed School Content Value-Added Score

For students who have both subjects, the student's content VAS $= \frac{ELA\,VAS + Math\,VAS}{2}$

Example: Student C has a math VAS = 1.67 and an ELA VAS = 0.86.

Content VAS for Student C $= \frac{1.67 + 0.86}{2} = \frac{2.53}{2} = 1.265$

The school mean Content VAS can be calculated by summing the content growth scores of the full academic year students and dividing the sum by the total number of full academic year students with combined growth scores.

- $School\,Content\,VAS = \left(\frac{Content\,VAS\,student\,A + content\,VAS\,student\,B + content\,VAS\,student\,C}{3}\right)$

- $School\,Content\,VAS = \left(\frac{0.22 + -1.27 + 1.265}{3}\right) = \left(\frac{0.215}{3}\right) = 0.0717$

- $\frac{Content\,VAS}{Transformed} = (35 \times Content\,VAS) + 80$

  $= (35 \times 0.0717) + 80 = 2.5095 + 80 = 82.5095 = 82.51$

Repeat the following steps to Calculate English Learner growth

Count the total number of full academic year students with an ELP growth score tested at each level. This total will serve as the denominator for the mean ELP VAS calculation.

Sum ELP growth scores of full academic year students.

Determine the school mean ELP VAS by dividing the sum of the ELP growth for full academic year students by the total number of full academic year students with an ELP growth score. The ELP growth score is calculated using the following formula:

$$ELP\ VAS = \left(\frac{\sum EL\ growth\ scores}{Total\ number\ students\ with\ EL\ growth\ Scores}\right)$$

To include school mean ELP VAS in the ESSA School Index, the values must be transformed to a 100 point scale that will work within the total point scale for the rating system. A score of ~80 represents expected growth. ELP VAS are transformed using the equation below.

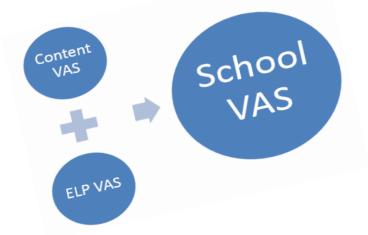$$ELP\ VAS_{Transformed} = (35 \times ELP\ VAS) + 80$$

Content Growth with ELP Growth for School Growth Indicator

- Each English Learner's (EL) English Language Proficiency (ELP) Level on ELPA21 is included at the student level.

- The degree to which the growth indicator is informed by growth on the English Learner's ELP assessment is proportional to the percentage of students with ELP growth scores when combining Content Growth and ELP Growth.

School Value-Added Score for the ESSA School Index

$$= \frac{\#\ EL\ w\ ELP\ Growth * (ELP\ VAS) + \#\ Students\ w\ Content\ Growth * (Content\ VAS)}{\#\ EL\ w\ ELP\ Growth + \#\ Students\ w\ Content\ Growth}$$

Example: Elementary School with High Proportion of ELs

65 English learners with ELP Growth Scores

- N ELs is 43.33% of Total Growth N
- 84.25 ELP Growth Score

85 students with math and/or ELA Growth Scores*

- N Content is 56.67% of Total Growth N
- 82.09 Math + ELA Content Growth Score

*This includes the ~65 ELs' math and/or ELA scores for content.

\# ELs w ELP ≈ \# ELs w Math and/or ELA content growth. Same students but due to different testing windows may or may not have all scores for both assessments (ELP and content).

- School Value-Added Score for the ESSA School Index is 83.03 and calculated as follows:
  - $\dfrac{65\,(84.25)+85\,(82.09)}{65+85} = \dfrac{5476.25+6977.65}{150} = \dfrac{12453.90}{150} = 83.03$

- Another way to calculate*
  - ELP growth is 43.33% of 84.25 = 36.51 points
  - Content growth is 56.67% of 82.09 = 46.52 points
    - 36.51 + 46.52 = 83.03 points for Content with ELP Growth

- 83.03 is 50% of ESSA School Index
  - 83.03 contributes ~41.52 ± 0.6 points* or 50% of 83.03 (rounded) to the ESSA Index Score
    - 17.99 points from ELP (41.42 X 0.4333) plus
    - 23.53 points from Content Growth (41.42 X 0.5667)

* (subject to rounding so may end up off by a fraction of a point)

Graduation Rates

Indicator 4

4 Year Cohorts Calculation

Calculation

 # actual graduates (as reported in Cycle 9 Graduates table)

 # initial cohort + # ontime transfers in − # of students who transfer out of cohort
(Expected)

Cohort Years

2016-2017= 12th Grade

2015-2016= 11th Grade

2014-2015= 10th Grade

2013-2014= 9th Grade

5th Year Cohort

Calculation

$$\frac{\#\,actual\,graduates\,in\,4\,years + \#\,actual\,graduates\,in\,5\,years}{\#\,initial\,cohort + \#\,on-time\,transfers\,in - \#\,of\,students\,who\,transfer\,out\,of\,cohort}$$

Cohort Years

- 2016-2017 = 5th Year Graduation

- 2015-2016 = 12th Grade

- 2014-2015 =11th Grade

- 2013-2014 = 10th Grade

- 2012-2013 = 9th Grade

Graduation Rate Corrections

Expected Graduates

Who can be removed from the cohort?

- Transfers to another Arkansas School (Code 1)
- Transfers to a School Outside of Arkansas (Code 18)
- Emigrated to another country (Code 18)
- Enrolls into Homeschool (Code 17)
- Enrolls into Private school (Code 16)
- Death (Code 3)
- Prison or Juvenile Detention (that gives a regular diploma) (Code2)
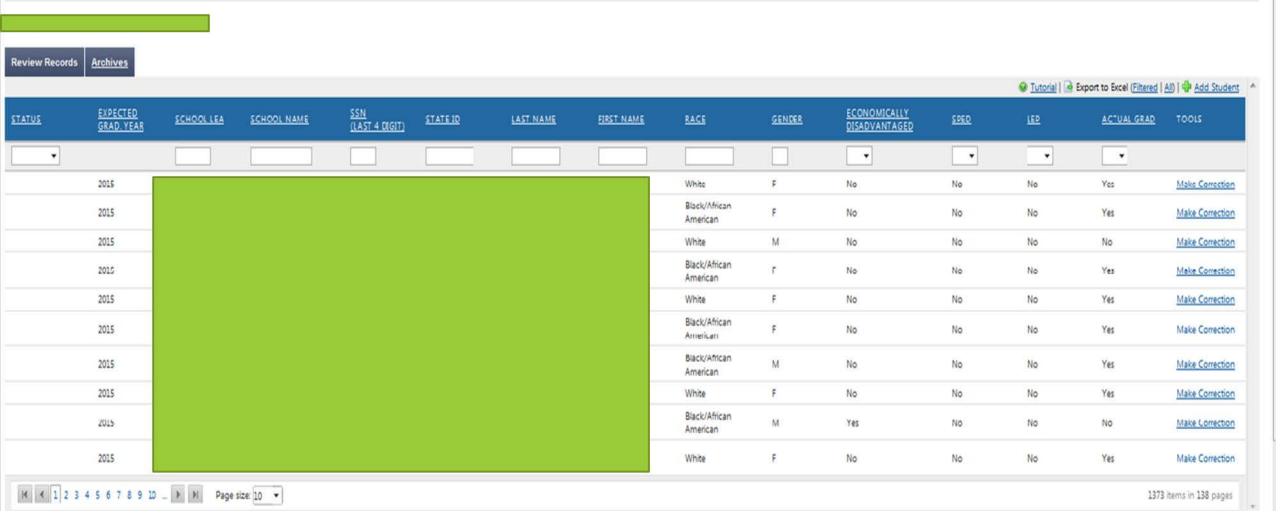
Special Corrections

- Duplicate State ID's

Graduation Corrections

Graduation Rate Review & Corrections System - 2015

Review Records | Archives

Tutorial | Export to Excel (Filtered | All) | Add Student

STATUS	EXPECTED GRAD. YEAR	SCHOOL LEA	SCHOOL NAME	SSN (LAST 4 DIGIT)	STATE ID	LAST NAME	FIRST NAME	RACE	GENDER	ECONOMICALLY DISADVANTAGED	SPED	LEP	ACTUAL GRAD	TOOLS
▼										▼	▼	▼	▼	
	2015							White	F	No	No	No	Yes	Make Correction
	2015							Black/African American	F	No	No	No	Yes	Make Correction
	2015							White	M	No	No	No	No	Make Correction
	2015							Black/African American	F	No	No	No	Yes	Make Correction
	2015							White	F	No	No	No	Yes	Make Correction
	2015							Black/African American	F	No	No	No	Yes	Make Correction
	2015							Black/African American	M	No	No	No	Yes	Make Correction
	2015							White	F	No	No	No	Yes	Make Correction
	2015							Black/African American	M	Yes	No	No	No	Make Correction
	2015							White	F	No	No	No	Yes	Make Correction

◄ ◄ 1 2 3 4 5 6 7 8 9 10 ... ► ►   Page size: 10 ▼

1373 items in 138 pages

School Quality and Student Success

Indicator 5

Student Engagement: Student Risk Due to Chronic Absence

Risk Level	Description	Points Earned per Student
Low Risk	Absent less than 5% of days enrolled	1.0
Moderate Risk	Absent 5% to less than 10% of days enrolled	0.5
High Risk = Chronic Absence	Absent 10% or more of days enrolled	0.0

- Number of Students Enrolled (Cycle 7 Certified Submission) Grades K-11
- Days Absent and Days Present for Enrolled Students (Cycles 3, 5, 6,7)
- Risk is (total present days) / (total present days + total absent days).
- Number of Points Possible for Student Engagement (Number enrolled)
  - Mobile students are included.
  - Students who were enrolled for a minimum of 10 days.
  - If a student was enrolled in multiple schools during the school year, the student would be included in each school.
  - For juvenile justice school (DYS) and department of health services schools, students must have been enrolled for a minimum of 60 days.
- Number of Points Earned Per Student for Engagement (sum of points for risk level of students)
- Beginning in 2018, exclude home schooled or private school students receiving services or enrolled in courses (Resident Code = 1, 2, 4) if student state ID and LEA are accurate for match to enrollment data downloaded from TRIAND

Reading Achievement: Students Reading at Grade Level

Achievement Levels	Description	Points Earned per Student
On or Above Grade Level for Reading	ACT Aspire: Ready or Exceeds	1.0
Not at Grade Level for Reading	ACT Aspire: Close or In Need of Support	0.0

- Students tested in reading on required statewide ACT Aspire (Grades 3-10)
- Student full academic year status (not highly mobile)
- Number of Points Possible for Reading at Grade Level
  - number of full academic year students tested in reading
- Number of Points Earned Per Student for Reading at Grade Level
  - sum of points for students scoring at Ready or Exceeds achievement levels
- *Note:* MSAA does not provide a separate score or achievement level for reading and thus, students completing alternate assessment for ELA cannot be included in this component at this time.

Science Achievement : Students Achieving Readiness in Science

Achievement Levels	Description	Points Earned per Student
On or Above Grade Level for Science	ACT Aspire: Ready or Exceeds APA Science Levels Independent or Functional Independence	1.0
Not at Grade Level for Science	ACT Aspire Close or In Need of Support APA Science Levels: Supported Independence, Emergent, Not Evident	0.0

- Students Tested in Science on required statewide ACT Aspire or Alternate Portfolio Assessment (Grades 3-10)
- Student full academic year status (not highly mobile)
- Number of Points Possible for Science at Grade Level
  - number of full academic year students tested in science
- Number of Points Earned Per Student for Science Readiness
  - sum of points for students scoring at Ready or Exceeds achievement levels and Functional Independent or Independent on the Alternate Portfolio Assessment

Science Growth: Students Meeting or Exceeding Expected Growth in Science Achievement

Quartile	Description	Points Earned per Student
Growth in Top Quartile	Science Value-Added Score at/above 75th percentile of growth of students in same grade	1.0
Growth in Middle Quartiles	Science Value-Added Score At/Above 25th percentile to less than 75th percentile of growth of students in same grade	0.5
Growth in Bottom Quartile	Science Value-added score is below the 25th percentile of growth of students in same grade	0.0

- Students Tested in Science on required statewide ACT Aspire
- Growth scores for students in Grades 4 – 10
- Student full academic year status (not highly mobile)
- Number of Points Possible
  - number of full academic year students with science growth scores
- Number of Points Earned Per Student for Science Growth
  - sum of points for students' value-added science growth scores

On-time Credits: Students in Grades 9 – 11 Earning at Least 5.5 Credits each Year

Credit Earning	Points Earned per Student
Grade 9 completed ≥ 5.5 credit Grade 10 completed ≥ 11.0 credits Grade 11 completed ≥ 16.5 credits	1.0
Fewer credits earned than those listed above	0.0

- Number of active students enrolled in School (Cycle 7 Certified Submission)
- Student Course Completion (Cycle 7 Certified Submission)
- Grade Level
- Student Full Academic Year status
- Number of Points Possible for On-Time Credits
  - Number of full academic year students enrolled in grades 9, 10, and/or 11
- Number of Points Earned Per Student On-Time Credits
  - Sum of points for students enrolled in grades 9, 10, and/or 11 at school

ACT Composite: Students Earning at Least 19 as Their Best ACT Score Anytime in High School

Achievement Levels	Points Earned per Student
Best ACT Composite Score at/above 19	1.0
Best ACT Composite Score below 19	0.0

- Number of active Grade 12 Students Enrolled in School (Cycle 7 Certified Submission)
- ACT Scores for 3 years from national and state administrations
- Full Academic Year Status
- Number of Points Possible for ACT Composite
  - Number of Grade 12 full academic year students
- Number of Points Earned for ACT Composite
  - Sum of points Grade 12 students with ACTs
- ASMSA students' scores are counted at the high school listed as resident high school by ASMSA.

ACT College Readiness Benchmark: Students Earning ACT Scores that Indicate Readiness for College Coursework

Achievement Levels	Points Earned per Student
Best ACT Reading Score ≥ 22	0.5
Best ACT Math Score ≥ 22	0.5
Best ACT Science Score ≥ 23	0.5

- Number of active Grade 12 Students Enrolled in School (Cycle 7 Certified Submission)
- ACT Scores for 3 years from national and state administrations
- Full Academic Year Status
- Number of Points Possible for ACT Readiness
    - Number of full academic year Grade 12 students
- Number of Points Earned for ACT Readiness Benchmarks
    - sum of points Grade 12 students with ACTs
- ASMSA students' scores are counted at the high school listed as resident high school by ASMSA.

State Cumulative GPA: Students Earning a GPA of 2.8 or Higher by the End of Grade 12

Achievement Levels	Points Earned per Student
High School GPA ≥ 2.8	1.0
High School GPA < 2.8	0.0

- Number of active Grade 12 Students Enrolled in School (Cycle 7 Certified Submission)
- Final High School GPA submitted for Grade 12 students in Cycle 7 Certified Submission
- Full Academic Year Status
- Number of Points Possible for High School GPA
  - Number of full academic year Grade 12 students enrolled
- Number of Points Earned for High School GPA
  - Sum of points Grade 12 students

Advanced Placement/International Baccalaureate/Concurrent Credit: Students Completing Credits in Courses With Post-High School Rigor

Achievement Levels	Points Earned per Student
Completing 1 or more credits in grades 9 – 12	1.0
No credits earned in grades 9 - 12	0.0

- Number of active Grade 12 Students Enrolled in School (Cycle 7 Certified Submission)
- Course Credits Earned for each high school year for Grade 12 class
- Number of Points Possible for AP/IB/Concurrent Credit
  - Number of full academic year Grade 12 students enrolled
- Number of Points Earned for AP/IB/Concurrent Credit
  - Sum of points Grade 12 students

Computer Science Credits: Students Completing Computer Science Courses

Achievement Levels	Points Earned per Student
Completing 1 or more credits in grades 9 – 12	1.0
No credits earned in grades 9 - 12	0.0

- Number of Grade 12 Students Enrolled in School (Cycle 7 Certified Submission)
- Course Credits Earned for each high school year for Grade 12 class
- If students complete 0.5 credits for each of two or more courses, these credits are summed and counted as 1.0 credits
- Number of Points Possible for Computer Science
  - Number of full academic year Grade 12 students enrolled
- Number of Points Earned for Computer Science
  - Sum of points for Grade 12 students

Students Completing 75 Certified Hours of Community Service in an Approved Community Service Learning Program

Achievement Levels	Points Earned per Student
Completing 1 or more credits in grades 9 – 12	1.0
No credits earned in grades 9 - 12	0.0

- Number of active Grade 12 Students Enrolled in School (Cycle 7 Certified Submission)
- Course Credits Earned for each high school year for Grade 12 class
  - Course Codes 999120 and 496010 were used in 2016-17.
  - Moving forward only 496010 will be used.
  - See Commissioner's Memo for details: http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=3575
- Number of Points Possible for Community Service
  - Number of Grade 12 students enrolled
- Number of Points Earned for Community Service
  - Sum of points Grade 12 students

Components Are Aggregated into a School Quality and Student Success Score

- Calculate possible points and earned points for each component for each student.
  - Students may have different components due to different grade levels so the points possible provides a way to make the denominator comparable statewide within grade spans.

- Calculate SQSS points for each student and at the school level :
  - the total possible points of SQSS are the sum of the possible points of all components, and
  - the total earned points of SQSS are the sum of the earned points of all components.

- Calculate percentage SQSS score at the school level: the percentage score is equal to (total earned points / total possible points)*100.

Example of Overall ESSA Index Score Calculation

- Weights assigned by grade span
  - K – 5 & 6 – 8 have 50% weight for growth
  - 9 – 12 have 35% weight for growth

Fake Elementary
ESSA School Index

Indicator	Indicator Score	Weight	Points
Weighted Achievement	80.8	.35	28.28
Value-Added Growth	86.8	.50	43.40
School Quality and Student Success (SQSS)	74.05	.15	11.11
Overall ESSA Index Score			**82.79**

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